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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,827	01/23/2002	Philipp Ritter	TRW(REPA)6028	7790

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EXAMINER	
SINGH, ARTI R	
ART UNIT	**PAPER NUMBER**
1771	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/054,827	RITTER, PHILIPP	
	Examiner	Art Unit	
	Ms. Arti Singh	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-12,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment/Arguments

1. The Examiner has carefully considered Applicant's amendments and accompanying remarks filed on 02/17/04, 06/14/04 & 07/30/04. Applicant's amendments to claims 2,-9, 11, 12, 19 and 20 have all been entered; claims 1, 10 and 13-18 remain cancelled. Upon further consideration and enlightenment the Examiner withdraws that statement that claims 11 and 12 had allowable subject matter. Support for said presumption is found in the chemistry of high tenacity yarns. Such yarns when being formulated are found to have properties such as what Applicant desires. The yarns themselves when stretched have amorphous and crystalline areas, which within the yarn themselves exhibit properties of stronger (crystalline) and weaker (amorphous) regions. Furthermore, the Examiner believes that the previously made rejections with some modifications still do read on the claims. Applicant if they wish may revert back to the original claim language if they see fit as the Examiner is withdrawing the allowable subject matter. This action is being made non-final in light of the withdrawal.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, Applicant is reciting both open and closed language when referring to the coating or finish, please pick one.

4. Claims 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. Specifically, with reference to the percentage, the Examiner does not understand what Applicant desires here. Are we speaking of cover factor of the final fabric over the uncoated one? Please clarify.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 11, 2-10, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5576839 issued to Dischler.

7. USPN 5,576,839 issued to Dischler et al discloses a fabric and articles formed it having improved ability to dissipate the kinetic energy of a moving object such as an airbag (column 2. lines 38- onwards). It is a feature of the present invention to provide a fabric and articles formed therefrom comprising high strength, high modulus polymeric fibers or yarns coated with a powder which modifies the coefficient of friction between the fibers or yarns during an impact event (column 2, lines 45-54). It is a further feature of the present invention to provide a fabric and articles formed therefrom at least partially coated with a finish comprising a powder which exhibits dilatant properties around the point of impact when hit by a moving article. Such powder is preferably nonlaminar and more preferably characterized by fractal dimensionality. According to one aspect of the present invention, a fabric for dissipating the kinetic energy of a moving object is provided. The fabric is formed by an arrangement of high tenacity polymer fibers. The fibers preferably have a tenacity of at least 15 grams/denier and a tensile modulus of about 300 grams/denier. The fibers are at least partially covered with a dilatant powder of nonlaminar dimensions. Such dilatant powder may

be entrapped between the fibers, bound to the fibers or simply adhered by electrostatic forces. According to a more particular aspect of the present invention, a protective encasement of fiber material is provided. The fiber material comprises a plurality of high tenacity polymer fibers formed into a knitted, woven, or nonwoven fabric structure wherein at least a portion of the fibers are coated with a finish containing a dilatant powder of nonlaminar dimensions. In this application the word "dilatant" is not used in its usual sense to refer to a shear thickening fluid, but refers herein to a powder which solidifies under pressure, where said powder is understood to refer to a collection of amalgamated or loose discreet solid particles having a mean diameter preferably ranging from about 1 nm to about 1 mm. Such discreet solid particles are preferably substantially nonlaminar in geometry having 1, 3 or more preferably noninteger (i.e. fractal) dimensionality (column 2, line 54-column 4, line 5). Any number of methods may be used to apply the powder to the fabric. By way of example only and not limitation, the powder may be precipitated or crystallized within the yarn structure where it is mechanically trapped by the fibers comprising the yarns. The powder may be applied directly to the face of the fabric, where some powders will remain reasonably well attached owing to electrostatic attraction. Powder applied to the fabric face may be forced into the yarn structure by needling, where it remains mechanically entrapped. Some powders, if sufficiently fine, will adhere directly to the fiber surface. The powder may be dispersed in a liquid medium and applied in the manner of a pigment dyestuff, then dried. A finish may be applied comprising a powder and a polymeric binding agent, such as a fluorinated water-repellent, where the binding agent weakly bonds the powder to the fabric. The finish may be applied first and the powder subsequently. For the lighter powders, effective add-ons can be 2% or less based on the weight of the fabric

(Column 5, lines 12-29). In the working Examples specifically 2 and 6 the use of amorphous silica and silica are employed (columns 5 and 6).

With regard to the limitation of claim 5 where Applicant desires the use of a polyamide, this limitation is meet in the background of the invention where it states that such fibers are employed.

Dischler et al teach what is set forth above, but do not explicitly teach the use of polyester as the chosen fiber of claim 6, nor to the fact that the fabric is uncoated, claim 8., or that a silicone coating is applied. As per the use of polyester for the fiber the Examiner takes the position that substituting one well known and used fiber such as polyester is well within the level of one ordinary skilled in the art, and a skilled artisan would have sought to use polyester as the chosen fiber merely by the fact that is easily available and cheaper. With regard to leaving the formulated airbag fabric uncoated, the Examiner takes the position that using the dilatants would not require the use of an additional coating layer and yet the airbag would still remain impermeable. Thus a person having ordinary skill in the art at the time the invention was made would have found it obvious not to have applied an additional coating to the airbag fabric, as the dilatants alone would close up any interstices that would have been present. And in the alternative, if a coating or finish of silicone were to be applied by a skilled artisan to the airbag fabric- utilizing what is already known in the art of coated fabrics it would just make the fabric impermeable.

Furthermore, it should be noted that processing methods do not bear patentable weight and it is the examiner's position that the airbag fabric of Dischler et al. is identical to or only slightly different than that of Applicant prepared by the method limitations of the claim 11, that is incorporation of the particle prior to coating(s), because both appear to be chemically and structurally similar and have the same end use. Even though product-by-

process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). The Dischler patent either anticipated or strongly suggests the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the patent.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. Arti Singh whose telephone number is 571-272-1483. The examiner can normally be reached on M-F 9-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ars 10/17/04

Ms. Arti Singh
Primary Examiner
Art Unit 1771